

REMARKS

In this reply, we have amended claims 1, 3, 5, 7, 8, 12, 18, 20, 22, 26, 30-33, 35, 40, 42, 44, 45, and 48, canceled claims 4, 19, 21, 36, 37, 41, and 43, and added claims 49-55. Thus, the application presently includes claims 1-3, 5-18, 20, 22-35, 38-40, 42, 44-55, with claims 1, 30, 40, 49, and 52 being independent claims.

Presently, originally filed claims 1-48 stand rejected as obvious in view of Krahbichler et al. (U.S. Patent No. 6,055,058), either alone or further in view of Svendsen (U.S. Patent No. 5,633,708) and/or Inoue et al. (U.S. Patent No. 5,289,265). We traverse for the following reasons.

Claims 1 and 40 respectively cover a method and apparatus related to photonic crystal fibers. Among other limitations, these claims require directing "test light toward a side of a photonic crystal fiber, wherein the test light is related to a estimated bandgap of the photonic crystal fiber," and "determining a deviation between an actual bandgap of the photonic crystal fiber and the estimated bandgap based on the measurement light." The action rejects these claims as obvious in view of Krahbichler, acknowledging that "Krahbichler does not disclose monitoring [a] photonic crystal fiber," but states: "it would have been obvious to modify Krahbichler's system to test different types of fiber to reduce testing cost." We disagree.

Firstly, nowhere does Krahbichler disclose a photonic crystal fiber. Instead, Krahbichler is concerned with monitoring the concentricity of an optical fiber jacket layer of a total-internal-reflection (TIR) optical fiber (see, e.g., Krahbichler, col. 1., lines 6-10, and col. 2, lines 58-64).

Moreover, even if one of ordinary skill were to apply Krahbichler's teachings to a photonic crystal fiber, one would not provide test light as claimed. To the contrary, Krahbichler selects his test light based on the jacket material's absorption, noting that a wavelength "where the transmission is approximately 50% would be advantageously used" (Id., col. 7, lines 50-65).

Furthermore, applying Krahbichler's teachings to a photonic crystal fiber would, at best, allow one to determine the concentricity of an outermost layer of the fiber. They would not suggest determining a deviation between an actual bandgap and the estimated bandgap based on

the measurement light, as required by the claims, nor do they provide any guidance on how to make such a determination.

Presently, claim 30 stands rejected in view of Krahbichler in combination with Svendsen. In the rejection, the action refers "to discussion of claim 1 above for detecting the fiber," and adds, "Svendsen discloses broadband light" (Office Action, page 4, para. 1).

Among other limitations, independent claim 30 requires "determining a measurement spectrum ... related to a bandgap of the photonic crystal waveguide." Nowhere does Krahbichler disclose or suggest determining a measurement spectrum. The action acknowledges as much in relying on Svendsen to provide a broadband light source. Furthermore, notwithstanding disclosing a broadband light source, Svendsen does not disclose determining a measurement spectrum at all, let alone determining a measurement spectrum as required by the claim. Nor is there any suggestion to modify Svendsen's teachings to do so because, firstly, Svendsen is not concerned with photonic crystal fibers (see, e.g., Svendsen, col. 2, lines, 19-21), so one would not be motivated to modify his methods to determine a measurement spectrum from wavelengths related to a photonic crystal waveguide bandgap. Moreover, one would not be motivated to modify Svendsen's methods to determine a measurement spectrum at all, because Svendsen is interested only in the spatial intensity distribution of light reflected from his fiber, not the spectral content (see, e.g., Svendsen, col. 3, lines 5-15, col. 4, lines 60-65, col. 6, lines 34-38).

Accordingly, we ask the Examiner to withdraw the prior art rejection of claims 1, 30, and 40. We submit that the remaining rejected claims, all of which depend from claims 1, 30, and 40, are allowable for at least same reasons as those set forth above.

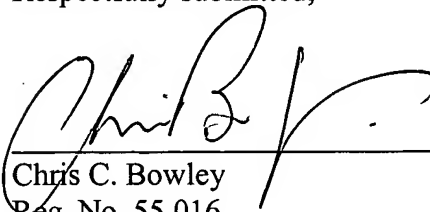
Enclosed is a \$55 check for the Petition for Extension of Time fee and a \$86 check for additional claims. Please apply any other charges or credits to deposit account 06-1050.

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Serial No. : 10/090,903
Filed : March 5, 2002
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Attorney's Docket No.: 13445-007001 / OG5 (6065A)

Respectfully submitted,

Date: April 9, 2004


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